

**REMARKS**

This amendment is filed in response to the Office Action dated October 19, 2005. In view of this amendment, this application should be allowed and the case passed to issue.

No new matter is introduced by this amendment. The amendment to claim 1 is supported by claim 5. Support for the amendment to claim 6 is found in claim 1. Claim 7 has been amended to maintain consistency with independent claim 1. Amended claim 15 is supported by claim 25.

Claims 1-3, 6-24, 26, and 27 are pending in this application. Claims 19-22, 26, and 27 have been withdrawn from consideration pursuant to a restriction requirement. Claims 1-3, 5, 7, 9-18, 23-25, and 28 are rejected. Claims 5-8 are objected to. Claims 1, 6, 7, and 15 have been amended in this response. Claims 5, 25, and 28 were canceled in this response and claim 4 was previously canceled.

***Interview Summary***

Applicants gratefully acknowledge Examiner Rickman's helpful explanation of the status of claims 5 and 7 during a telephone interview on December 22, 2005. Examiner Rickman explained that claims 5 and 7 were not listed on the PTOL-326 Office Action Summary as objected to, though they were objected to on page 5 of the Office Action, because claims 5 and 7 were also rejected as indefinite. The Examiner further explained the claims 5 and 7 would be allowable if rewritten in independent form and if the asserted indefiniteness was corrected.

***Allowable Subject Matter***

Claims 5-8 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form.

Applicants gratefully acknowledge the indication of allowable subject matter. In accordance with the Examiner's recommendations, Claim 1 has been amended to include the limitations of claim 5, and therefore, corresponds to claim 5 rewritten in independent form. Claim 6 has been rewritten in independent form by adding the limitations of claim 1. Applicants submit that claims 1 and the claims depending therefrom, and claim 6 are in condition for allowance.

***Claim Rejections Under 35 U.S.C. § 112***

Claims 5, 7, and 28 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because the word "strong" is a relative term.

Though Applicants believe that claims 5, 7, and 28 were definite and clear to one ordinary skill in this art, in order to advance prosecution of this application, claims 5 and 28 were canceled. Claim 7 has been amended to address the Examiner's concerns. Applicants submit that the instant claims fully comport with the requirements of 35 U.S.C. § 112.

***Claim Rejections Under 35 U.S.C. §§ 102 and 103***

Claim 28 was rejected under 35 U.S.C. § 102(b) as being anticipated by Lambeth et al. (U.S. Pat. No. 6,248,416). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. This rejection is moot as claim 28 has been canceled.

Claims 1-3, 9-18, and 23-25 were rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Carey et al. (U.S. Pat. No. 6,835,475). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the instant invention, as claimed, and the cited prior art.

Claims 1 and 6 are allowable as they have been amended in accordance with the Examiner's recommendation to place them in condition for allowance.

An aspect of the invention, per claim 15, is a perpendicular magnetic recording medium comprising: (a) a non-magnetic substrate having a surface; and (b) a layer stack formed over the substrate surface. The layer stack comprises, in overlying sequence from the substrate surface: (i) a magnetically soft underlayer, (ii) an amorphous or crystalline seed layer, (iii) an interlayer structure for crystallographically orienting a layer of a perpendicular magnetic recording material formed thereon, and (iv) at least one crystallographically oriented magnetically hard perpendicular recording layer. The interlayer structure comprises, in overlying sequence from a surface of said magnetically soft underlayer: (1) a first crystalline interlayer of a non-magnetic material formed in a gas atmosphere at a first pressure, and (2) a second crystalline interlayer of a non-magnetic material formed in a gas atmosphere at a second pressure greater than the first pressure. Each of the first and the second crystalline interlayers comprises a non-magnetic material selected from the group consisting of Ru, RuCr, other Ru-based alloys, CoCrRu, Ti, CoCr, CoCrPt, CoCrTa, and CoCrMo. The magnetically soft underlayer is sputter-deposited at a sufficiently large target-to-substrate spacing and a sufficiently low gas pressure selected to provide the underlayer with a smooth surface having a low average surface roughness Ra below about 0.3 nm, as measured by Atomic Force Microscopy (AFM).

Carey et al. do not anticipate or suggest the claimed perpendicular magnetic recording medium because Carey et al. do not disclose the magnetically soft underlayer sputter-deposited at a sufficiently large target-to-substrate spacing and a sufficiently low gas pressure selected to provide the underlayer with a smooth surface having a low average surface roughness Ra below

about 0.3 nm, as measured by Atomic Force Microscopy (AFM), as required by claim 15. Carey et al. do not suggest the underlayer with a surface roughness Ra below about 0.3 nm.

The Examiner did not address the surface roughness limitation in the Office Action. If the Examiner is basing the rejection of claim 25 on inherency, Applicants respectfully remind the Examiner that the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). "Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)(citations omitted). "In relying upon a theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The Examiner has not provided a basis for asserting that Carey et al. inherently disclose the claimed surface roughness of the underlayer.

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend, and further distinguish the claimed invention.

#### ***Restriction***

Upon the allowance of a claim directed to the perpendicular magnetic recording medium, Applicants respectfully request rejoinder and allowance of withdrawn claims 19-22, 25, and 26 in accordance with MPEP § 821.04.

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this

**Application No.: 10/663,670**

Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Bernard P. Codd

Registration No. 46,429

600 13<sup>th</sup> Street, N.W.  
Washington, DC 20005-3096  
Phone: 202.756.8000 BPC:MWE  
Facsimile: 202.756.8087  
**Date: January 19, 2006**

**Please recognize our Customer No. 49745  
as our correspondence address.**